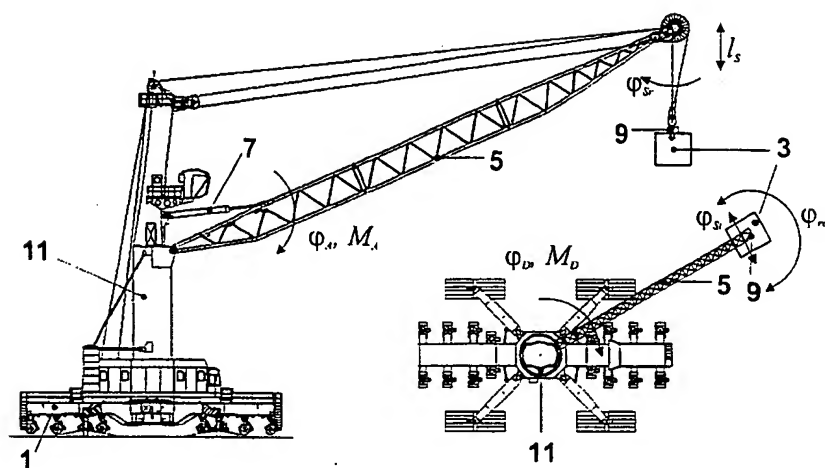


Fig.1



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Fig. 2

Operator			
Hand lever			
Set Point	Track control system		only for operations
	31		with control system
			For load oscillation
			Damping

Hydraulic actuation system 21

Combustion engine 23

Proportional valve, variable displacement pump turning mechanism	Motor 27	
Proportional valve, variable displacement Pump seesaw mechanism	Cylinder 29	Crane
Proportional valve, variable displacement Pump hoisting gear	Motor 27	
Proportional valve, variable displacement Pump load swivel mechanism	Motor 27	

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Fig. 3

Operator 33	Track control system 31	Crane
Hand lever 34	Module for optimized Movement guidance, Fully automated 37	Rotate tower
	Module for optimized Movement guidance. Semiautomated 39	Incline extension arm
	Underlying control System with load oscillation damping 36	To wind
Set point matrix 35		Load swivel mechanism
	Measured values crane position, load position	

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Fig. 4

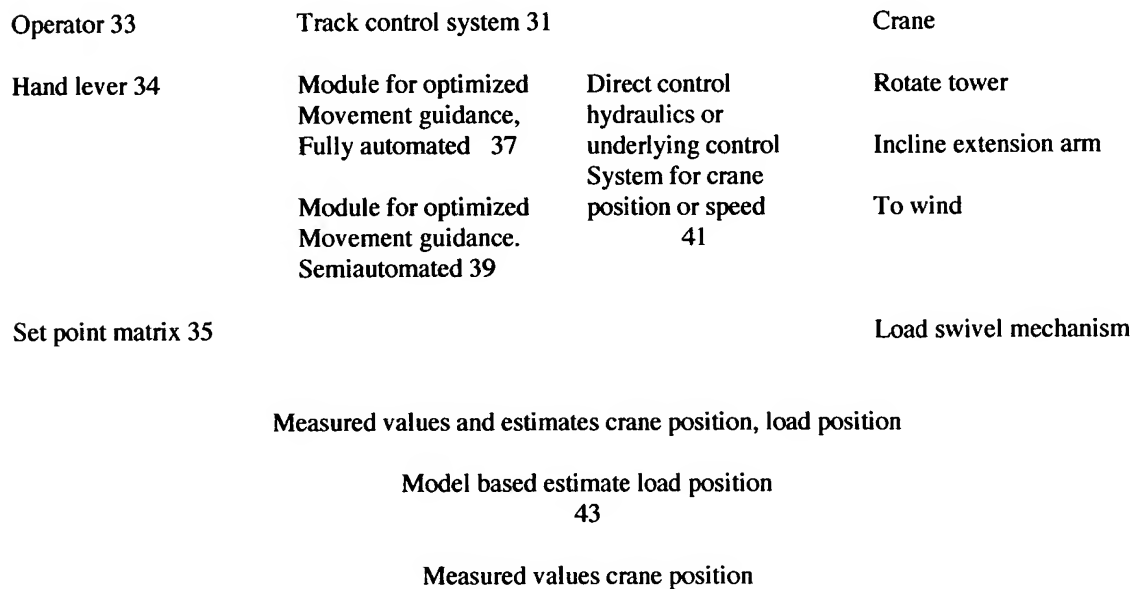


Fig.5

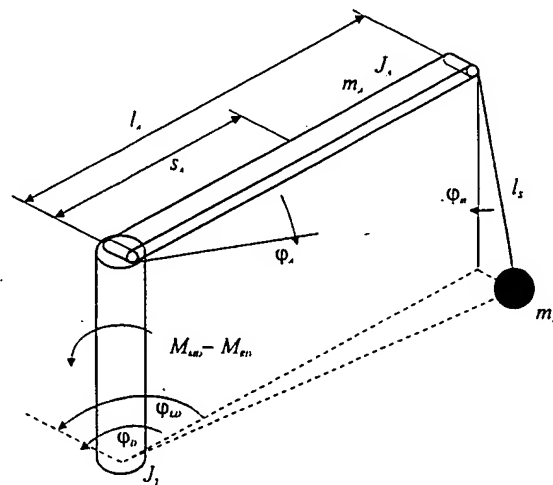
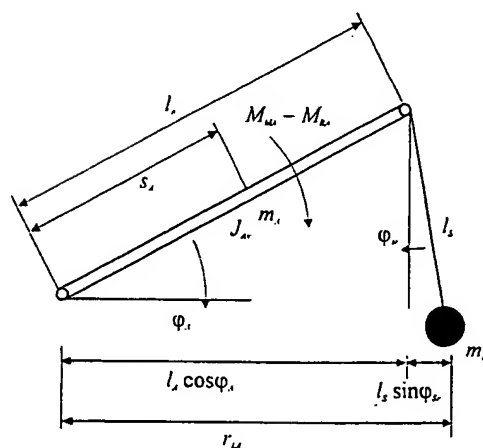


Fig.6



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Fig. 7

Extension Arm

Hydraulic cylinder

Crane tower

Fig. 8

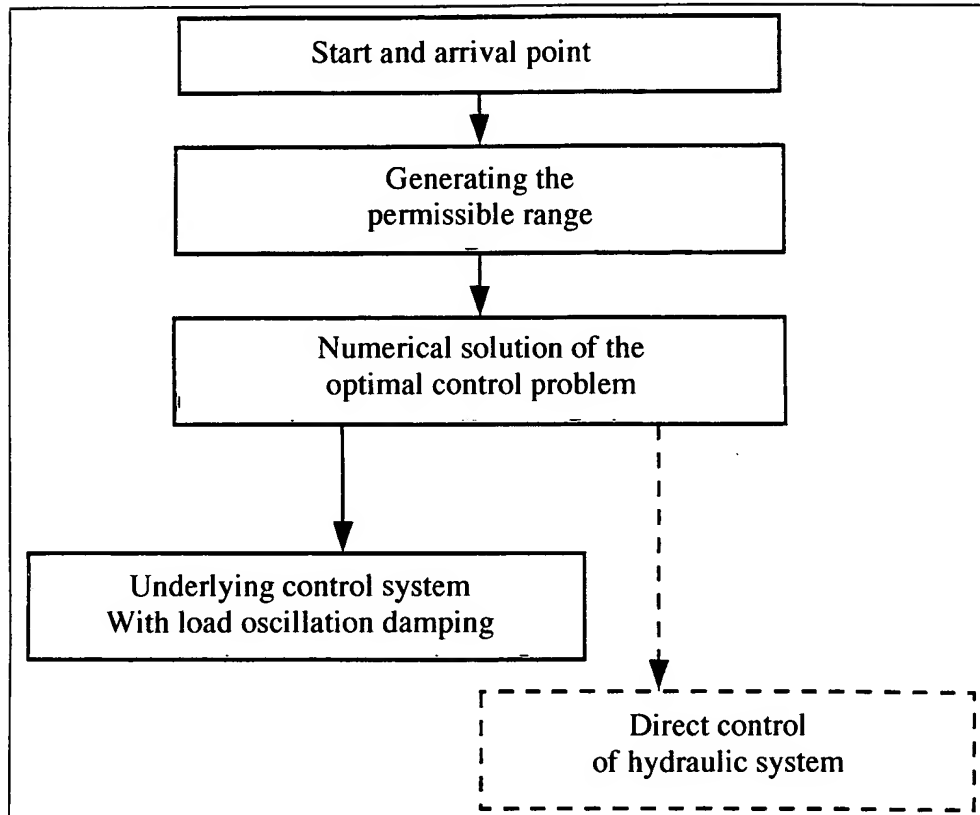
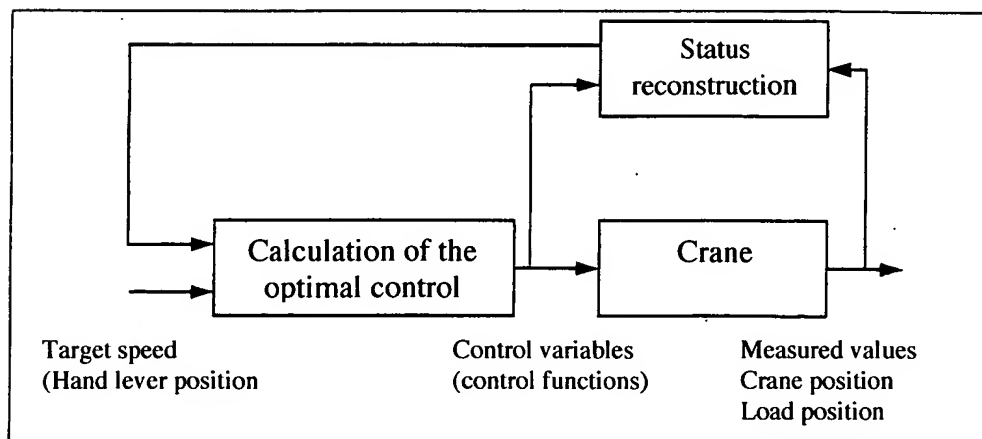


Fig. 9



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Fig. 10

Time

Time

Fig. 11

Control Voltage Hydraulics Turning Mechanism

Load Angle Speed

Time

Time

Control Voltage Hydraulics Seesaw Mechanism

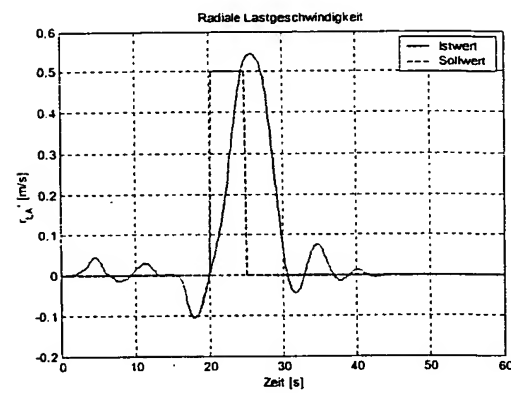
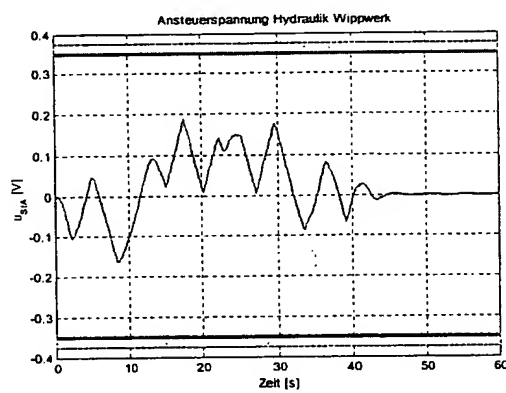
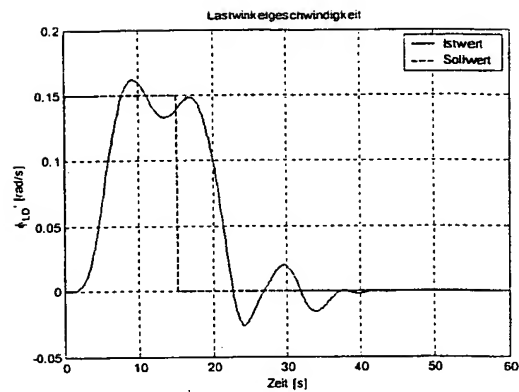
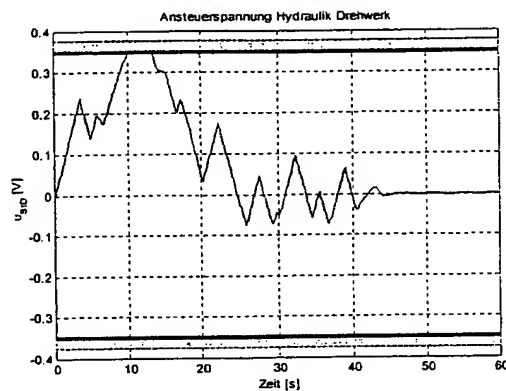
Radial Load Speed

Time

Time



Fig. 11



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